

Biochemicals and Reagents

for Life Science Research

ALPHABETICAL
LIST

BIOACTIVE
PEPTIDES

IMMUNO-
CHEMICALS

MOLECULAR
BIOLOGY

RBI,
NEUROSCIENCE,
SIGNAL
TRANSDUCTION

TISSUE
CULTURE

OTHER
PRODUCT
GROUPS/USP

EQUIPMENT,
BOOKS AND
SUPPLIES

DIAGNOSTIC
KITS AND
REAGENTS

PRODUCT
INDEX



SIGMA®

REAGENTS

TISSUE CULTURE MEDIA AND REAGENTS

ICALS

	UNIT SIZE	US \$
IE	5 g	8.20
minopentanoic acid)	25 g	15.70
oride	100 g	38.65
ie		
99%		
ammonia and citrulline free		
e tested		
C ₅ H ₁₂ N ₂ O ₂ • HCl	FW 168.6	

ACID	5 g	32.80
diolic acid)	25 g	127.85
8%	100 g	414.70
tested		
culture tested		
C ₄ H ₄ O ₅	FW 132.1	
38	S: 26-36	

THIAZOLIDINE-	1 g	18.25
LIC ACID	5 g	60.65
tested		
C ₄ H ₅ NO ₃ S	FW 147.1	
18	S: 26-36	

ation Reagents page 1770

IE	5 g	91.20
phenyl-		
disulfide; LBF Factor)		
tested		
C ₂₂ H ₄₂ N ₄ O ₈ S ₂	FW 554.7	

IC ACID	100 g	27.85
Dihydroxy-	500 g	109.90
-butyryl-β-alanine)		
m salt		

ested		
ulture tested		
9H ₁₆ NO ₅ • 1/2Ca	FW 238.3	

NIC ACID	100 g	21.80
ydroxy-		
-butyryl-β-alanine)		
n Salt		

ested		
ulture tested		
C ₉ H ₁₆ NO ₅ • 1/2Ca	FW 238.3	

	100 g	35.45
	500 g	80.50
c hydrolysate	1 kg	145.10

ysis:
i: approx. 16%
n: approx. 3.0%
approx. 0.2
sted

ODIUM SALT
yes and Indicators page 1796

h.com/techinfo

CELL CULTURE TESTED BIOCHEMICALS

PRODUCT NUMBER	UNIT SIZE	US \$
DL-PHENYLALANINE	25 g	14.75
P 4905		
(DL-2-Amino-3-phenyl-propanoic acid)		
Crystalline		
Cell culture tested		
Insect cell culture tested		
[150-30-1] C ₉ H ₁₁ NO ₂	FW 165.2	

L-PHENYLALANINE	25 g	15.80
P 5030	100 g	46.10
(L-2-Amino-3-phenyl-propanoic acid)		
Crystalline		
Cell culture tested		
Insect cell culture tested		
[63-91-2] C ₉ H ₁₁ NO ₂	FW 165.2	

L-α-PHOSPHATIDYLCHOLINE	50 mg	31.75
P 3782	100 mg	49.30
(L-α-Lecithin)	500 mg	180.95
Type III-S: From Soybean	1 g	301.40
Approx. 99%		
Prepared		
Chromatographically		
Chloroform Solution - 100 mg per ml		
Prepared by a modification of the procedure of Singleton, W.S., et al., J. Am. Oil Chem. Soc., 42, 53 (1965).		
Cell culture tested		
R: 45-46-23/24/25-36/37/38		
S: 45-26-36/37/39-23		

PLURONIC F-68	100 g	19.75
P 1300	500 g	40.90
Cell culture tested		
Insect cell culture tested		
[9003-11-6]		

POLYETHYLENE GLYCOL
See Hybri-Max® Reagents page 1824

POLYOXYETHYLENE-	100 ml	12.65
P 2287	500 ml	17.85
SORBITAN	1 gal	56.70
MONOLAURATE		
(Tween 20)		
d = 1.1 g/ml		
Syrup		
Fatty acid composition:		
Lauric acid approx. 50%; balance primarily myristic, palmitic, and stearic acids.		
Cell culture tested		
[9005-64-5]		

POLYOXYETHYLENE-	100 ml	12.65
P 4780	500 ml	17.85
SORBITAN	1 gal	56.70
MONOLEATE		
(Tween 80)		
d = 1.06-1.10 g/ml		
Syrup		
Fatty acid composition:		
Oleic acid approx. 70%; balance primarily linoleic, palmitic, and stearic acids.		
Cell culture tested		
[9005-65-6]		
R: 40	S: 36	

POLY(2-HYDROXYETHYL	10 g	67.45
P 3932	25 g	134.70
METHACRYLATE)		
(Poly-HEME)		
Used to inhibit cell adhesion to growth surfaces in culture vessels		
Cell culture tested		
See Technical Section for use Instructions		
page 1849		
[25249-16-5]		
R: 36/37/38	S: 26-28	

PRODUCT NUMBER	UNIT SIZE	US \$
POTASSIUM CHLORIDE	250 g	11.65
P 5405	500 g	18.40
Approx. 99%	1 kg	32.60
Cell culture tested		
Insect cell culture tested		
[7447-40-7] KCl	FW 74.55	
R: 36/37/38	S: 26-36	

POTASSIUM NITRATE	500 g	28.05
P 6030	1 kg	47.30
Cell culture tested		
[7757-79-1] KNO ₃	FW 101.1	
R: 8-22-36/37/38	S: 17-26-36-7	

POTASSIUM PHOSPHATE	100 g	12.95
P 5655	500 g	33.65
MONOBASIC	1 kg	58.70
Anhydrous		
Minimum 99.0%		
Cell culture tested		
Insect cell culture tested		
[7778-77-0] KH ₂ PO ₄	FW 136.1	

PROGESTERONE
See Hormones page 1785

L-PROLINE	25 g	16.80
P 4655	100 g	55.75
Crystalline	1 kg	418.50
Hydroxy-L-proline free		
Cell culture tested		
Insect cell culture tested		
[147-85-3] C ₅ H ₉ NO ₂	FW 115.1	

PROTAMINE SULFATE	1 g	16.85
P 2162	5 g	43.85
(Salmine)		
From Salmon		
White amorphous powder		
Cell culture tested		
[53597-25-4]		

PROTEASE
See Dissociation Reagents page 1770

PROTEASE INHIBITOR	1 ml	25.95
P 8340	5 ml	103.95
COCKTAIL		
For use with mammalian cell and tissue extracts		
A mixture of protease inhibitors with broad specificity for the inhibition of serine, cysteine, aspartic and metallo-proteases.		
Contains 4-(2-aminoethyl)benzenesulfonyl fluoride (AEBSF), pepstatin A, trans-epoxysuccinyl-L-leucylamido(4-guanidinobutane (E-64), bestatin, leupeptin, and aprotinin. Contains no metal chelators.		
Supplied as a solution in DMSO. One ml is recommended for the inhibition of proteases extracted from 20 g of bovine liver.		
R: 63-20/21/22-42/43-36/37/38	S: 26-36-23	

PUTRESCINE	5 g	11.20
P 5780	25 g	33.45
(1,4-Diaminobutane; Tetramethylenediamine)		
Dihydrochloride		
Crystalline		
Minimum 98%		
Cell culture tested		
[333-93-7] C ₄ H ₁₂ N ₂ • 2HCl	FW 161.1	
R: 36/37/38	S: 26-36	

PYRIDOXAL	1 g	10.40
P 6155	5 g	28.85
Hydrochloride	25 g	117.70
Crystalline		
Cell culture tested		
Insect cell culture tested		
[65-22-5] C ₆ H ₇ NO ₃ • HCl	FW 203.6	
R: 22	S: 36	

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Tissue Culture Media and Reagents

B

SODIUM TUNGSTATE

Dihydrate 100 g 35.90
 ACS Reagent 500 g 111.30
 Assay: 99.0 to 101.0%
 Insoluble matter: $\leq 0.01\%$
 Titratable free base: ≤ 0.02 meq/g
 Chloride (Cl): $\leq 0.005\%$
 Molybdenum (Mo): $\leq 0.001\%$
 Nitrogen compounds (as N): $\leq 0.001\%$
 Sulfate (SO₄): $\leq 0.01\%$
 Heavy metals and iron (as Pb): $\leq 0.001\%$
 [10213-102] Na₂WO₄ • 2H₂O FW 329.9
 R: 20/21/22-36 S: 26-36

SODIUM TUNGSTATE

See: Tungstic Acid, Sodium Salt Page 1048

SODIUM 12-TUNGSTOPHOSPHATE

See: Phosphotungstic Acid, Sodium Salt Page 846

SODIUM UNDECYLENATE

See: Undecylenic Acid, Sodium Salt Page 1053

SODIUM URATE

See: Uric Acid, Sodium Salt Page 1055

TANESOL

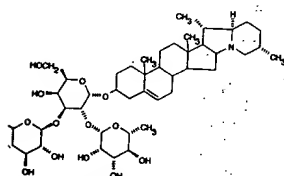
from Tobacco leaves 25 mg 52.30
 O₄ (HPLC) 100 mg 153.80
 250 mg 306.45
 The C₁₅ isoprenoid alcohol is the most abundant lipid in tobacco leaves. It may be an important precursor of the tumorigenic polynuclear aromatic hydrocarbons of smoke.
 cf.: Severson, R.F., et al., J. Chromatog., 139, 269 (1977).
 [3190-97-1] C₁₅H₂₄O FW 631.1

TANIDINE

from Potato 5 mg 21.60
 prox. 98% 10 mg 35.10
 f.: Ripberger, H. and Schreiber, The Alkaloids, XIX, 81 (1981).
 [778-4] C₂₇H₄₃NO FW 397.6
 23/24/25 S: 45-36/37/39-22

TANINE

from Potato sprouts 5 mg 43.35
 prox. 95% 10 mg 71.35
 50 mg 235.10
 isaccharide, consisting of glucose, galactose and rhamnose, linked to nidine.
 Bushway, R.J., Amer. Potato J., 60, 793 (1983).



iso: α-Chaconine Page 243
 [5202-1] C₂₅H₃₇NO₁₅ FW 868.1
 24/25 S: 45-36/37/39

VE D

emissidine Page 329

M TUBEROSUM LECTIN

actins Page 2095

DINE

d-5-en-3β-ol 100 mg 29.20
 c. 99% 250 mg 56.70
 1 g 165.05
 [70] C₂₇H₄₃NO₂
 1.6
 4/25 S: 45-36/37/39

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SOLKETAL

500 g 32.00
 [12-269-6] (1,2-O-Isopropylidene-rac-glycerol; [(1S)-2,2-Dimethyl-1,3-dioxolane-4-methanol]
 Approx. 97%
 d = 1.07 g/ml
 For possible use in lipid synthesis.
 Aldrich Brand. Formerly Sigma Product I 8380.
 [100-79-8] C₆H₁₂O₃ FW 132.2

SOLVENT BLUE 37

10 g 10.90
 S 3259 Practical Grade 25 g 21.60
 [12226-74-3]

SOLVENT BLUE 38

25 g 19.90
 S 3382 Practical Grade 100 g 40.15
 [1328-51-4]

SOLVENT GREEN 4

See: Fluoral Yellow 088 Page 455

SOLVENT RED 27

See: Oil Red O Page 773

SOMATOSTATIN and RELATED PEPTIDES

See: Bioactive Peptides Page 1126
 For cell culture tested Somatostatin See: Tissue Culture Media and Reagents Page 1808

SOMATOTROPIN (STH)

(Growth Hormone)
 Increases mass of most tissues by increasing cell number rather than cell size, mobilizes fat stores
 [9002-72-6]

From Human Pituitaries

1 vial 148.40
 Vial contains approx. 4 I.U. h-GH,
 with 0.1 mg ammonium bicarbonate and 3.5 mg
 mannitol.
 Not assayed by Sigma.

From Porcine Pituitaries

1 vial 90.55
 Vial contains approx. 50 I.U.
 Bioassay not run by Sigma.

SOPHORA JAPONICA

See: Lectins Page 2096

SOPHOROSE

10 mg 33.60
 25 mg 66.35
 100 mg 220.70
 (2-O-β-D-Glucopyranosyl-
 D-glucopyranose; β-D-Glc-[1→2]-
 D-Glc)
 Minimum 98%
 [20429-79-2] C₁₂H₂₂O₁₁ FW 342.3

SORBIC ACID

(2,4-Hexadienoic acid)

S 1626 Free Acid 100 g 13.35
 Minimum 99.0% 250 g 17.15
 See also: Tissue Culture Media and
 Reagents Page 1836
 [110-44-1] C₆H₈O₂ FW 112.1
 R: 20/21/22 S: 26-36

S 7420 Potassium Salt

100 g 25.80
 SigmaUltra 500 g 59.50
 Minimum 99%
 Insoluble matter: $< 0.1\%$
 Solubility (1 M in water, 20°C): complete, faint yellow

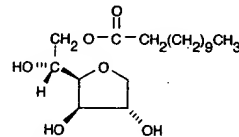
Ch: $< 0.05\%$ Mg: $< 0.0005\%$
 SO₄: $< 0.05\%$ Na: $< 0.1\%$
 Al: $< 0.0005\%$ NH₄: $< 0.05\%$
 Ca: $< 0.0005\%$ P: $< 0.001\%$
 Cu: $< 0.0005\%$ Pb: $< 0.001\%$
 Fe: $< 0.0005\%$ Zn: $< 0.0005\%$
 [590-00-1] C₆H₇O₂K FW 150.2
 R: 36/37/38 S: 26-36

S 1751 Potassium Salt

100 g 12.25
 Minimum 99% 250 g 16.55
 500 g 30.95
 [590-00-1] C₆H₇O₂K FW 150.2
 R: 36/37/38 S: 26-36

SORBITAN

S 6635 Monolaurate 250 ml 16.15
 (Span 20) 1 liter 49.95
 Fatty acid composition: Lauric
 acid (C12:0) approx. 50%; balance primarily myristic
 acid (C14:0), palmitic (C16:0) and linolenic (C18:3) acids.



[1338-39-2]

S 6760 Monooleate
 (Span 80)

250 ml 14.15
 1 liter 45.00
 Fatty acid composition: Oleic acid
 (C18:1) approx. 75%; balance primarily linoleic
 acid (C18:2), linolenic (C18:3) and palmitic (C16:0) acids.
 [1338-43-8]

S 6885 Monopalmitate
 (Span 40)

250 g 14.15
 1 kg 45.00
 Fatty acid composition: Palmitic
 acid (C16:0) approx. 90%; balance primarily stearic
 acid (C18:0).
 [26266-57-9]
 R: 36/37/38 S: 26-36

S 7010 Monostearate
 (Span 60)

250 g 15.10
 1 kg 47.85
 Fatty acid composition: Stearic
 acid (C18:0) approx. 50%; balance primarily palmitic
 acid (C16:0).
 [1338-41-6]

S 3386 Sesquileolate
 (Arfacel 83)

250 ml 14.15
 1 liter 45.00
 Fatty acid composition: Oleic acid
 (C18:1) approx. 70%; balance primarily palmitic acid
 (C16:0), stearic acid (C18:0) and linoleic acid
 (C18:2).
 [8007-43-0]
 R: 36/37/38 S: 26-36

S 7135 Trioleate
 (Span 85)

250 ml 14.15
 1 liter 45.00
 Fatty acid composition: Oleic acid
 (C18:1) approx. 74%; linoleic acid (C18:2) approx.
 7%; linolenic acid (C18:3) approx. 2%; palmitoleic
 acid (C16:1) approx. 7%; balance primarily palmitic
 acid (C16:0).
 [26266-58-0]
 R: 36/37/38 S: 26-36

S 2028 Tristearate
 (Span 65)

250 g 14.05
 1 kg 44.55
 Fatty acid composition:
 stearic acid (C18:0) approx. 50%; balance primarily
 palmitic acid (C16:0).
 [26658-19-5]